TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: Fixed Income – Currency Hedging Program Annual Report ITEM NUMBER: 10

ATTACHMENT(S): 1

ACTION: ____ DATE OF MEETING: June 6, 2001

INFORMATION: X PRESENTER(S): Michelle Cunningham
Glenn Hosokawa

EXECUTIVE SUMMARY

The California State Teachers' Retirement System (CalSTRS, System) has adopted a global investment strategy, which includes a twenty five percent (25%) strategic allocation to non-dollar equity investments. As of March 31, 2001, CalSTRS had approximately $22 billion in non-dollar equity investments. Fifty percent (50%) of the strategic allocation is targeted to be managed on a passive basis and fifty percent (50%) is targeted to be managed actively.[1] Considering the System's commitment to non-dollar assets and the impact that currency fluctuations have on the total return of the EAFE markets, CalSTRS has recognized the need to develop and implement strategies to address the management of currency risk through currency hedging.

One of the implementation objectives approved for the Investment Branch for fiscal year 2000/01 is to explore, evaluate, and present a report on alternatives for the Investment Committee to consider in developing the System's view regarding currency management. Issues such as currency management objectives, risk tolerance and implementation methodologies should be addressed (for both the active and passive EAFE mandates). In addition, staff has been directed to explore additional currency risk management strategies, such as the use of currency overlay managers and currency options, to increase the efficiency of the Currency Hedging Program. This informational report (**Attachment 1**) is intended to represent the first step in fulfilling that objective, and begins with a description of the development of the currency management strategy employed by CalSTRS.

Under the current program, CalSTRS' active non-dollar equity managers are responsible for implementing their currency risk management strategy and have been provided with guidelines describing their authority, with respect to currency hedging. CalSTRS' Fixed Income staff has been authorized to implement the System's currency hedging strategy for the passively managed non-dollar

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[1] This discussion excludes the portion of the non-dollar equities managed for CalSTRS under an emerging markets mandate and the non-dollar holdings within the Alternative Investments and Real Estate portfolios.

equity assets, and has utilized a variable hedging strategy that focuses primarily on the Euro and the Japanese yen, increasing the hedge ratio when the outlook is for a strong dollar and reducing the hedge when the outlook is for dollar weakness. In total, approximately 5% ($1 billion) of the entire non-dollar EAFE portfolios were hedged as of March 31, 2001. Since inception, the total realized gains for the Currency Hedging Program have amounted to $ 626 million, with the active portion contributing $ 91 million and the passive portion contributing $ 535 million.

SUMMARY/CONCLUSIONS

The decision regarding how to handle the currency exposure associated with the non-dollar assets within the CalSTRS Investment Portfolio will have a significant impact on the total return. With a twenty-five percent (25%) strategic allocation to non-dollar investments, currency represents the third largest exposure for the System. In addition, market practitioners argue that portfolios with allocations to non-dollar assets exceeding fifteen percent (15%) are compelled to establish a formal currency management strategy. Therefore, a major issue for controlling the risk associated with CalSTRS' currency exposure is the continuous development and implementation of a strategy designed to manage that exposure, along with the selection of an appropriate performance benchmark/strategic currency exposure.

In 1995, CalSTRS first adopted its Currency Hedging Program Policy, outlining how the System shall manage its currency risk, with reviews and revisions in both 1997 and 1999. Continuous monitoring of changes in the non-dollar equity portfolio and marketplace are required in order to control risk. This discussion is especially timely as the CalSTRS Investment Committee prepares to review its strategic asset allocation. As a result, the key issue for staff, with respect to the Currency Hedging Program going forward, will be to <u>continue to work with the Investment Committee to refine the currency management strategy.</u> As a result, staff suggests the preparation of a comprehensive review of the currency markets, including an in-depth discussion of currency management considerations when designing a currency strategy and selecting a performance benchmark, much like that presented by Callan Associates in May 2000. This discussion should also revisit the benefits/costs of internal vs. external management. This study will be included in the 2001-02 Investment Objectives and Work Plan, and will be presented at the upcoming Business Planning session for the Investment Committee's consideration.

CURRENCY HEDGING PROGRAM ANNUAL REPORT

EXECUTIVE SUMMARY

The California State Teachers' Retirement System (CalSTRS, System) has adopted a global investment strategy, which includes a twenty five percent (25%) strategic allocation to non-dollar equity investments. As of March 31, 2001, CalSTRS had approximately $22 billion in non-dollar equity investments. Fifty percent (50%) of the strategic allocation is targeted to be managed on a passive basis and fifty percent (50%) is targeted to be managed actively.[1] Considering the commitment to non-dollar assets and the impact that currency fluctuations have on the total return of the EAFE markets, CalSTRS has recognized the need to develop and implement strategies to address the management of currency risk through currency hedging.

One of the implementation objectives approved for the Investment Branch for fiscal year 2000/01 is to explore, evaluate, and present a report on alternatives for the Investment Committee to consider in developing the System's view regarding currency management. Issues such as currency management objectives, risk tolerance and implementation methodologies should be addressed (for both the active and passive EAFE mandates). In addition, staff has been directed to explore additional currency risk management strategies, such as the use of currency overlay managers and currency options, to increase the efficiency of the Currency Hedging Program. This informational report is intended to represent the first step in fulfilling that objective, and begins with a description of the development of the currency management strategy employed by CalSTRS. The current structure of the Currency Hedging Program is presented, along with performance data. Finally, some conclusions regarding the challenges facing the program going forward are provided.

CalSTRS' CURRENCY MANAGEMENT STRATEGY

The decision by U.S. dollar-based investors to diversify into foreign assets is predicated upon the desire for improved risk-adjusted returns. The theory behind the foreign diversification argument is that, while domestic assets tend to move up and down together because they are similarly affected by domestic events, the various capital markets around the world often experience unrelated price movements. Investment performance in these markets may not be closely linked to the U.S. financial markets. Stated in another way, the performance of non-U.S. investments have a "low correlation" with the performance of domestic investments. The degree of independence of each market is directly linked to the independence of a nation's economy and government policies. Although there continue to be common factors, such as widespread recessions or booms, which affect asset prices globally, academicians and market practitioners

[1] This discussion excludes the portion of the non-dollar equities managed for CalSTRS under an emerging markets mandate and the non-dollar holdings within the Alternative Investments and Real Estate portfolios.

argue that diversification between markets around the world results in reduced portfolio risk and improved risk-adjusted portfolio returns.

Domestic assets are exposed to market risk, which is the probability that financial assets can rise or fall in value. Non-dollar assets have two sources of risk: 1) local market risk (the return of the equity market in Japan or Germany) and, 2) currency risk (exchange rate risk) associated with the translation of foreign currency movements against the U.S. dollar. For example, a portfolio of Japanese assets may increase in value by 10% to a local (Japanese) investor, but a U.S. investor, such as CalSTRS, would receive the 10% return plus or minus any change in the Japanese yen to U.S. dollar currency valuation. Stated another way, in order for a U.S. investor, such as CalSTRS, to purchase foreign assets, U.S. dollars must be sold and foreign currency must be purchased in order to carry out the transaction. As a result, CalSTRS has invested in both the foreign asset and the foreign currency within the non-dollar portfolios. Exchange rates are not stable, so the likelihood that an exchange rate will remain constant over the holding period of an investment is small. Therefore, the return to the U.S. investor must be adjusted for the gains or losses associated with the movement of the underlying currency in relation to the U.S. dollar.

The following table provides the total return for the MSCI EAFE Index[2] over each of the past five (5) years, on both a hedged basis (local market return) and an unhedged basis (local market return plus change in currency valuation). The purpose of this table is to illustrate the impact of currency compared to the local market returns.

EAFE ANNUAL RETURN

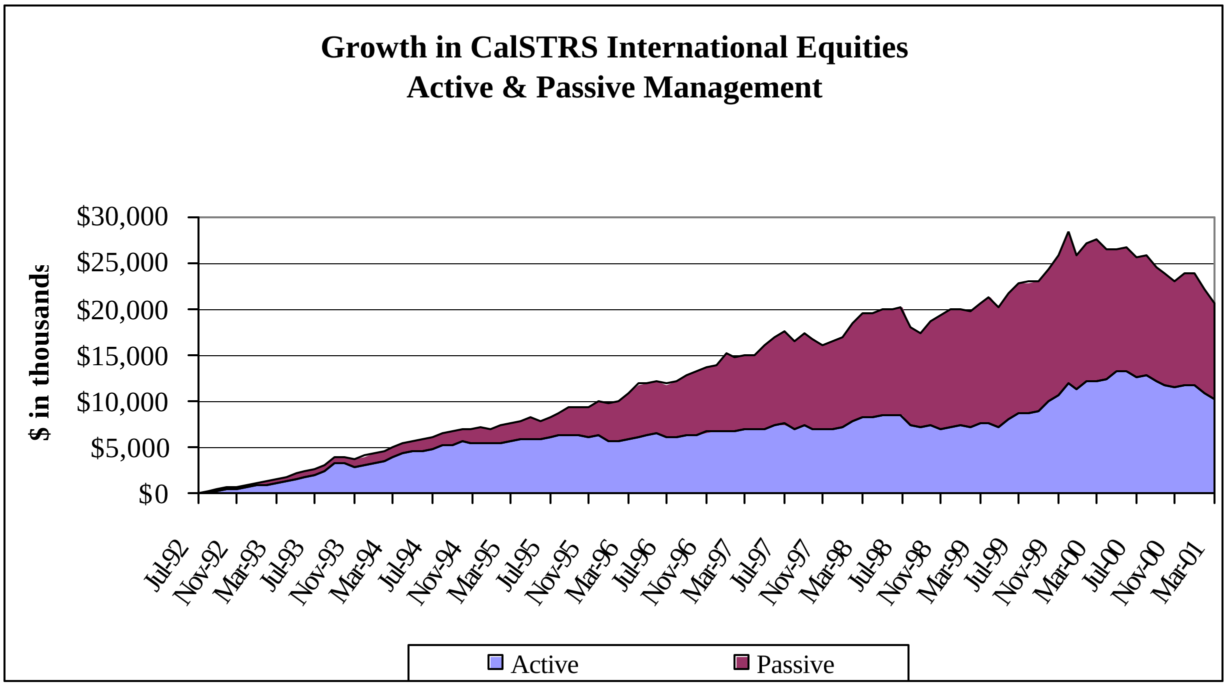
	USD (Unhedged)	Currency Impact	USD (Hedged)
1996	4.4%	7.4%	11.8%
1997	0.2%	13.5%	13.7%
1998	18.2%	-6.2%	12.0%
1999	25.3%	9.4%	34.7%
2000	-15.2%	9.7%	-5.5%
2001 YTD	-8.2%	6.4%	-1.8%

The decision of how to handle currency in a non-dollar portfolio can have a significant impact on the total return. In both 2000 and 2001 YTD, the currency impact was greater than the local market return. Considering the commitment to non-dollar assets and the impact that currency fluctuations have on the total return of the EAFE markets, CalSTRS has recognized the need to develop and implement strategies to address the management of currency risk through currency hedging. Currency hedging is an agreement between CalSTRS and a counterparty, designed to reduce the risk associated with holding non-dollar assets. The primary objectives in managing currency risk are to reduce the downside by hedging currency positions against potentially adverse exchange rate movements (foreign currency devaluation) and to benefit from favorable exchange rate movements (foreign currency appreciation).

[2] The Morgan Stanley Capital International Europe, Australia & Far East Index is an index commonly used by investors that is representative of the European, Australian, and Far Eastern equity markets.

CalSTRS' CURRENCY MANAGEMENT BACKGROUND

CalSTRS began researching the role of non-dollar assets in the portfolio in the mid-1980's, and began funding its international equity portfolios in 1992. At twenty-five percent (25%), CalSTRS has a relatively large target allocation to international equities, as compared to other large pension funds. As the following chart illustrates, CalSTRS' non-dollar asset growth, through both investment performance and funding, has been significant.



Because of the increasing exposure to non-dollar assets, CalSTRS adopted a currency hedging policy for the active international managers, authorizing them to hedge their portfolios on an opportunistic basis, using an unhedged performance benchmark. In 1995, as the portfolio continued to grow, the Board authorized staff to implement a similar currency risk management program on the passive international equity portfolio, and selected an unhedged performance benchmark as the appropriate measurement strategy for the internally managed currency hedging activity. The stated policy objective of the internally managed Currency Hedging Program is to "reduce the risk of the passively managed segment of the non-dollar equity portfolio by establishing controlled amounts of short currency positions in approved currencies when there is a risk that the U.S. dollar may strengthen."

CalSTRS' CURRENCY HEDGING PROGRAM

As of March 31, 2001, CalSTRS had approximately $22 billion allocated to non-dollar equities, with $10.3 billion under management with a passive EAFE mandate, and $9.3 billion under management with an active EAFE mandate. CalSTRS' active non-dollar equity managers have been provided with guidelines describing their authority with respect to currency hedging. These managers are permitted to hedge up to one hundred percent (100%) of the market value of each respective currency, up to fifty percent (50%) of the market value of their portfolio.

CalSTRS' Fixed Income staff has been authorized to implement the System's currency hedging strategy for the passively managed non-dollar equity assets. Staff establishes hedges using currency forwards, which are contractual obligations that provide the buyer or seller of a currency with a firm exchange rate for the conversion of a designated amount of that currency on a specified date in the future. Only currency forwards with a maximum of 6 months maturity are utilized to implement the program. Consistent with the active external managers, the internally managed Currency Hedging Program is also permitted to hedge up to one hundred percent (100%) of the market value of each respective currency and up to fifty percent (50%) of the market value of the passive portfolio. Approved currencies for the internally managed program are the Euro, Japanese yen, Swiss franc, and Pound sterling. Staff has implemented a variable hedging strategy since the inception of the program, focusing primarily on the Euro and the Japanese yen, increasing the hedge ratio when the outlook is for a strong dollar and reducing the hedge when the outlook is for dollar weakness.

The Currency Hedging Program for the non-dollar EAFE portfolios had the following hedging statistics as of March 31, 2001:

CALSTRS INTERNATIONAL EQUITY PORTFOLIOS
MARKET VALUE

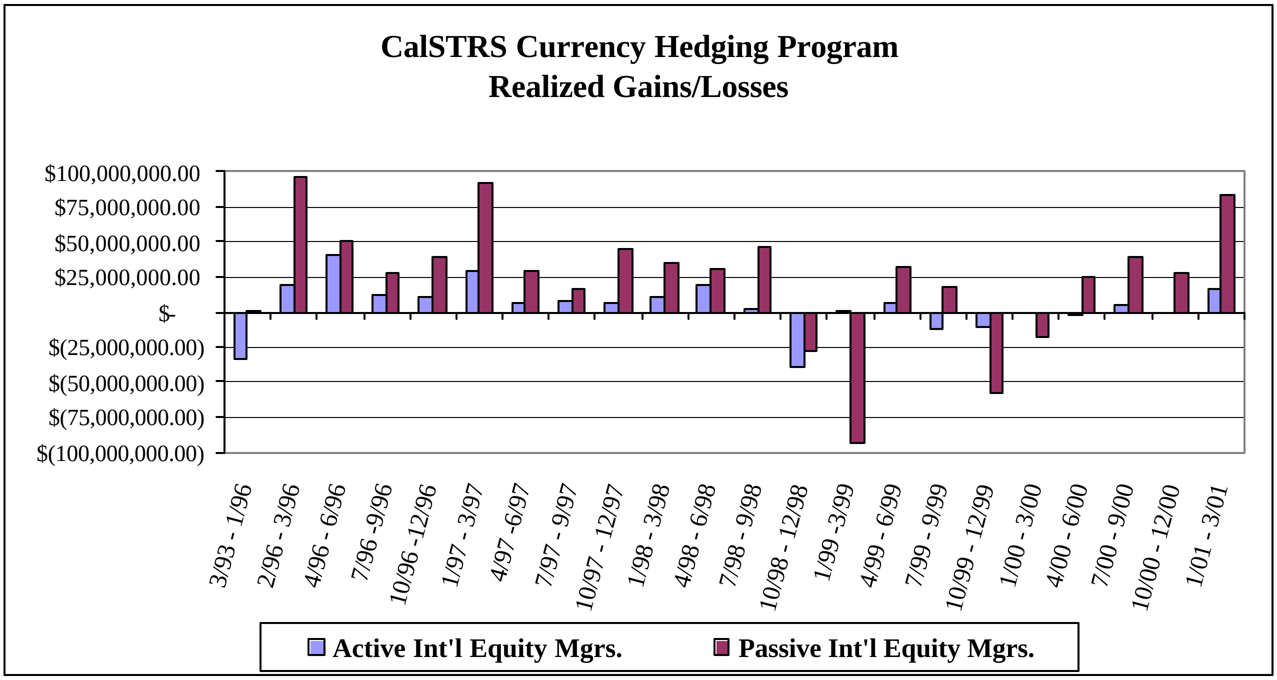
	Pacific Basin		European		Total	
	$ in Millions	% Hedged	$ in Millions	% Hedged	$ in Millions	% Hedged
Active Managers	$ 2,847.59	5.4 %	$ 6,537.51	0 %	$ 9,385.10	1.6 %
Passive Managers	$ 3,105.13	27.1 %	$ 7,267.05	0 %	$ 10,372.18	8.1 %

The active portfolios had approximately $150 million of Japanese yen (5.4%) for the Pacific Basin region hedged back to U.S. dollars, while the passive portfolios had approximately $840 million of Japanese yen (27.1%) for the Pacific Basin region, hedged back to U.S. dollars. There were no hedges for the European region within either the active or passive portfolios. In total, approximately 5% of the entire non-dollar EAFE portfolios were hedged.

PERFORMANCE MEASUREMENT

Currency risk can be managed by utilizing either a: 1) fully hedged, 2) unhedged or, 3) partially hedged performance benchmark/strategic currency exposure. A fully hedged approach reduces volatility by effectively eliminating the impact of foreign currencies in a non-dollar portfolio, but does so at a potentially significant financial cost. It also eliminates any opportunity to benefit from favorable currency movements. An unhedged approach to currency management involves minimal transaction costs, but can result in an increase in the volatility of returns as a result of retaining the currency exposure. A partial hedge combines the benefits and costs of the fully hedged and unhedged approaches and results in a reduction of both potential upside and downside movements.

CalSTRS' Currency Hedging Program is measured against an unhedged performance benchmark. The following chart and table identify the currency hedging realized gains and losses since inception of the program through March 31, 2001.



	FY 00/01*	Past 1 yr	Past 3 yrs	Since Inception
Active Mgrs.	$19,260,837	$17,221,826	($18,391,321)	$91,221,842
Passive Mgrs.	$150,071,420	$175,387,792	$103,289,353	$535,032,738
Totals	**$169,332,257**	**$192,609,618**	**$84,898,032**	**$626,254,580**

* Through March 31, 2001

Since inception in 1993, the total realized gains for the Currency Hedging Program have amounted to $ 626 million, with the externally managed active portion contributing $ 91 million and the internally managed passive portion contributing $ 535 million.

SUMMARY/CONCLUSIONS

The decision regarding how to handle the currency exposure associated with the non-dollar assets within the CalSTRS Investment Portfolio will have a significant impact on the total return. With a twenty-five percent (25%) strategic allocation to non-dollar investments, currency represents the third largest exposure for the System. In addition, market practitioners argue that portfolios with allocations to non-dollar assets exceeding fifteen percent (15%) are compelled to establish a formal currency management strategy. Therefore, a major issue for controlling the risk associated with CalSTRS' currency exposure is the continuous development and implementation of a strategy designed to manage that exposure, along with the selection of an appropriate performance benchmark/strategic currency exposure.

In 1995, CalSTRS first adopted its Currency Hedging Program Policy outlining how the System shall manage its currency risk, with reviews and revisions in both 1997 and 1999. Continuous monitoring of changes in the non-dollar equity portfolio and marketplace are required in order to control risk. This discussion is especially timely as the CalSTRS Investment Committee prepares to review its strategic asset allocation. As a result, the key issue for staff, with respect to the Currency Hedging Program going forward, will be to continue to work with the Investment Committee to refine the currency management strategy. As a result, staff suggests the preparation of a comprehensive review of the currency markets, including an in-depth discussion of currency management considerations when designing a currency strategy and selecting a performance benchmark, much like that presented by Callan Associates in May 2000. This discussion should also revisit the benefits/costs of internal vs. external management. This study will be included in the 2001-02 Investment Objectives and Work Plan, and will be presented at the upcoming Business Planning session for the Investment Committee's consideration.